

**Notice of Allowability**

Application No.

10/033,799

Examiner

Charles Chow

Applicant(s)

YANG, HONG KUI

Art Unit

2685

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 11/17/2004.
2. ☒ The allowed claim(s) is/are 1-11.
3. ☒ The drawings filed on 05 April 2005 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☐ All   b) ☐ Some\*   c) ☐ None   of the:
    1. ☐ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
6. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
  - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
    - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
  - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

- |                                                                                                                     |                                                                                        |
|---------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892)                                                    | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)            |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                | 6. <input type="checkbox"/> Interview Summary (PTO-413),<br>Paper No./Mail Date _____. |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),<br>Paper No./Mail Date _____ | 7. <input type="checkbox"/> Examiner's Amendment/Comment                               |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br>of Biological Material          | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance   |
|                                                                                                                     | 9. <input type="checkbox"/> Other _____.                                               |

### Detailed Action

1. Applicant has been corrected drawing, Fig. 1, the objection to drawing, Fig. 1, has being removed.

### Allowable Subject Matter

- 2 The following is an examiner's statement of reasons for allowance:

Application case 10/033,642 having the same inventor Hong Yang, as this application, but claims different subject matter and features, with matched receiver, transmitter, FIR filter and matched receiver, transmitter, phase equalizers, for reducing inter-chip distortion.

Claims 1-11 are allowable over the prior art of record, the prior art fails to teach singly, particularly, or in combination, the subject matter, (pages 5-7 of applicant's amendment) for the transmitters, receivers, in a base station, the receiver FIR filter being matched to said transmitter FIR filter and said receiver phase equalizer is matched to said pre-distortion phase equalizer; wherein the FIR filter is matched to a transmitter FIR filter and the receiver phase equalizer is matched to a pre-distortion phase equalizer in a base station for reducing an inter-Chip Interference caused by distortion introduced by the transmitter FIR filter and predistortion phase equalizer in the base station, for reducing the inter-chip interference, difficultly improved by hardware, by utilizing software controlled matched FIR filters and matched phase equalizers in transmitter side and in receiver side, for compensation of distorted transmitted signal arriving at the receiver side.

The dependent claims are also allowable due to their dependency upon the independent claims and the additional claimed features.

Applicant claims a CDMA 2000 receiver system having plurality of transmitters, one or more transmitter comprising a base station processor, a finite impulse response FIR, a pre-distortion phase equalizer and a digital-to analog DAC converter; a plurality of receivers, one

or more receivers comprising an analog-to-digital ADC converter, a FIR filter, a phase equalizer and a receiver base band processor and said receiver FIR filter being matched to said transmitter filter filter and said receiver phase equalizer is matched to said pre-distortion phase equalizer; wherein the FIR filter is matched to a transmitter FIR filter and the receiver phase equalizer is matched to a pre-distortion phase equalizer in a base station for reducing an inter-Chip Interference caused by distortion introduced by the transmitter FIR filter and predistortion phase equalizer in the base station [claims 1, 8].

The closest cited prior **Lehman et al. (US 6,282,184 B1)** teaches CDMA base station transmitter and receiver (Fig. 2, col. 6, lines 33-47), the base band DSP 20-22 (Fig. 2), a CSD FIR 123 of the CDMA TX channelizer bank 23 (Fig. 9), and a SD FIR 64 of the CDMA RX channelizer 7 (Fig. 6). Lehman fails to teach **the receiver FIR filter being matched to said transmitter FIR filter and said receiver phase equalizer is matched to said pre-distortion phase equalizer; wherein the FIR filter is matched to a transmitter FIR filter and the receiver phase equalizer is matched to a pre-distortion phase equalizer in a base station for reducing an inter-Chip Interference caused by distortion introduced by the transmitter FIR filter and predistortion phase equalizer in the base station.**

Other prior arts in below has been considered, but they fail to teach the above claimed features.

**Oler et al. (US 6,031,866)** teaches the pre-equalizer 16 of transmitting section of base station, Fig.1, the phase pre-coding for the phase equalizing (col. 2, lines 3-21), the remote equalizer 128 of the remote transceiver 110 (Fig. 2), the coefficients of the forward filter 16 in pre-equalizer 12 of the transmit section, the coefficients of the forward filter 34 of base

equalizer 28 in the receiving section 14 (col. 5, lines 59-67). Oler fails to teach the receiver FIR filter being matched to said transmitter FIR filter and said **receiver phase equalizer is matched to said pre-distortion phase equalizer; wherein the FIR filter is matched to a transmitter FIR filter and the receiver phase equalizer is matched to a pre-distortion phase equalizer** in a base station for **reducing an inter-Chip Interference caused by distortion introduced by the transmitter FIR filter and predistortion phase equalizer in the base station.**

**Aschwanden (US 5,896,306)** teaches the phase distortion equalizer, phase correction A/B for correction the phase error caused by the group delay from the output of the FIR low pass filter LPF A/B (abstract, col. 2, lines 28-41; col. 5, lines 4-19; col. 6, lines 32-44).

Choi et al. (US 2003/0214,926 A1).

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

### **Conclusion**

- 3 Any inquiry concerning this communication or earlier communications from the examiner should be directed to Charles Chow whose telephone number is (703) 272-7889. The examiner can normally be reached on 8:00am-5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Urban can be reached on (703) 272-7899. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.


Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published

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applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Charles Chow *C.C.*

May 2, 2005.

  
EDWARD F. URBAN  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2300